Exhibit No.:

Witness: Kottwitz

Issues: Lost & Unaccounted For Gas

Sponsoring Party: MoPSC Staff

Type of Exhibit: Direct Testimony

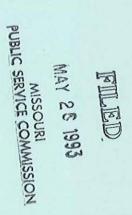
Case No.: GR-93-172

MISSOURI PUBLIC SERVICE COMMISSION UTILITY OPERATIONS DIVISION

> MISSOURI PUBLIC SERVICE CASE NO. GR-93-172

ACCOUNTING DEPT. PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY OF JOHN D. KOTTWITZ



Jefferson City, Missouri May, 1993

JOHN D. KOTTWITZ

MISSOURI PUBLIC SERVICE CASE NO. GR-93-172

OF

- Q. Please state your name and business address.
- A. My name is John D. Kottwitz and my business address is P.O. Box 360, Jefferson City, Missouri 65102.
 - Q. By whom are you employed and in what capacity?
- A. I am employed by the Missouri Public Service Commission (PSC or Commission) as a Staff Engineer in the Gas Safety section of the Energy Department.
- Q. Would you please review your educational background and work experience?
- A. In 1983, I received a Bachelor of Science degree in Civil Engineering from the University of Missouri at Rolla. Upon graduation, I accepted employment with Northern Illinois Gas Company (NIGas). During my three years with NIGas, I worked in natural gas operations and facility design.

Since July 1, 1986, I have been on the Staff of the PSC. During my employment with the Commission, I have conducted inspections, evaluations, and investigations of natural gas operators for compliance with applicable State and Federal safety regulations. I have successfully completed the seven courses provided by the U.S. Department of Transportation at the Transportation Safety Institute regarding enforcement of the Federal pipeline safety code (49 CFR, Part 192). I am a member of NACE International and the Gas Piping Technology Committee (ANSI/GPTC Z380).

- Q. Have you previously testified before the Commission?
- A. Yes. I presented testimony in Case Nos. GA-89-126, GR-90-50, GC-91-150, GR-90-198, and GR-91-291 before the Commission.
 - Q. What is the purpose of your direct testimony?
 - A. My testimony will address lost and unaccounted for gas

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(L&U) factors for Missouri Public Service (MoPub or Company).

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gas rate case, Case No. GR-90-198?

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A. Yes.

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What were the results of your review in that case? 0.

Q. Did you review the Company's L&U factors in its previous

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I found that the Company's data was insufficient to determine the contribution of several L&U components. Therefore, L&U factors were developed on a system average for the Northern and Southern systems using Company data provided for a three-year time period from September of 1986 through August of 1989. The computation method resulted in an L&U that was not the actual L&U, but rather the difference between purchases and the sum of billed sales, transportation, and Company use. Unbilled sales were not considered in the Staff's determination of normal annual sales, so they were included in my determination of the L&U.

The results were L&U factors of 7.06% for the Southern system and 5.22% for the Northern system, with L&U expressed as a percentage of purchases in Dekatherms. When purchases in undeviated Mcfs were used, the L&U factor for the Southern system was 1.63% of sales. This percentage is used in the Company's Purchased Gas Adjustment Clause as found on MoPub's P.S.C. MO. No. 5, original Sheet No. 45.

- Q. Have you updated this review?
- A. Yes, I have developed similar L&U system factors for the three-year time period from September of 1989 through August of 1992. The L&U factor for the Northern system remained relatively constant at 5.28% of Dekatherm purchases. However, the L&U factor for the Southern system dropped substantially to 3.28%, when expressed as a percentage of Dekatherm purchases, and -0.75% when undeviated Mcf purchases were used. Even when unbilled sales are removed from the L&U, the L&U factor is still negative at -0.54%.

- Q. Please expand upon the L&U factor for the Southern system.
- A. Since the Company's sales are made in undeviated Mcfs, the L&U factor using purchases in undeviated Mcfs is a direct comparison that does not include measurement and BTU factors. While the L&U should be expected to drop slightly as leaks are removed through the replacement program, the L&U factor should not be a negative quantity. A negative L&U factor indicates the Company sold, transported, and used more gas than it purchased.

The negative L&U factor for the Southern system has been brought to the Company's attention in Data Request No. 3214, wherein an explanation was requested. MoPub responded that:

"At the present, MPS is unable to explain the negative loss factor (undeviated basis) on the Southern system. This situation is currently being investigated."

- Q. What did you conclude?
- A. The L&U factor for the Northern system has not changed substantially since the Company's last gas rate case, Case No. GR-90-198. The Company's data for the Southern system however, yielded questionable results. Because of the unusual results obtained for the Southern system, further review and investigation is warranted before any changes are made.
 - Q. What are your recommendations?
- A. I recommend that MoPub continue to use the L&U factors presently in effect until an appropriate L&U factor can be determined for the Southern system. I also recommend that MoPub submit a report detailing the reasons why a negative loss factor resulted. This report should be submitted to the Manager Energy Department by December 31, 1993.
 - Q. Does this conclude your direct testimony?
 - A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the matter of Missouri Public Service to sheets designed to increase rates for gas service provided to customers in the Misson service area of the Company.) <u>CASE NO. GR-93-172</u>
AFFIDAVIT OF JOHN D. KOTTWITZ	
STATE OF MISSOURI)) 88 COUNTY OF COLE)	
John D. Kottwitz, of lawful age, on his oath states: that he ha participated in the preparation of the foregoing written testimony in question and answer form; consisting of 3 pages to be presented in this case; that the answers in the foregoing testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.	
-	John D. Kottwitz
Subscribed and sworn to before me this 25 th day of May, 1993.	
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My commission expires	W COPPRISE OF AUS. 15,1993